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(8.8.Alpha.7/AUX-3.1.1) with SMTP id RAA20101; Sun, 4 Aug 1996 17:56:53 -0500  
(CDT)  
Date: Sun, 4 Aug 1996 17:56:53 -0500 (CDT)  
Message-Id: <199608042256.RAA20101@uro.theporch.com>  
Errors-To: ws4s@midtenn.net  
Reply-To: glowbugs@theporch.com  
Originator: glowbugs@theporch.com  
Sender: glowbugs@theporch.com  
Precedence: bulk  
From: glowbugs@theporch.com  
To: Multiple recipients of list <glowbugs@theporch.com>  
Subject: GLOWBUGS digest 253  
X-Listprocessor-Version: 6.0c -- ListProcessor by Anastasios Kotsikonas  
X-Comment: Please send list server requests to listproc@theporch.com  
Status: 0

#### GLOWBUGS Digest 253

Topics covered in this issue include:

- 1) Another One-Tube Superhet Wonder  
by MAB@delphi.com
- 2) What a great day...  
by Chris Broadbent <cfb@bga.com>
- 3) Re: What a great day...  
by herr@ridgecrest.ca.us (Michael Herr)
- 4) Ye Olde Valves - Electrical Equivalents?  
by toyboat@freenet.edmonton.ab.ca

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Date: Sat, 03 Aug 1996 22:42:09 -0500 (EST)  
From: MAB@delphi.com  
To: glowbugs@theporch.com  
Subject: Another One-Tube Superhet Wonder  
Message-ID: <01I7UTBYAIR28WWJKV@delphi.com>

Came across an interesting one-tube AM superhetrodyne receiver circuit called the "Minidyne" in Popular Electronics, Sep 1956. This one is a bit different from the "one-tubers" built around compactrons in that it uses a 9-pin miniature, a 6U8, and a passive mixer. Here's the circuit in a nutshell.

The signal is picked up by a ferrite loop antenna tuned by the 365 mmfd RF section of a dual variable condenser. A low-impedance tap feeds a

germanium diode mixer which then feeds the low-impedance side of a 455 kc IF transformer (a type designed for use in sand-state circuits - in this circuit it's used "backwards") which is in series with a low impedance take-off winding of the L0 coil which is tuned by the L0 section of the dual variable condenser. The 6U8 triode functions as the L0. The IF signal is amplified by the pentode 6U8 section feeding a diode-output IF transformer with a germanium diode detector in series with the IF secondary. The AF signal appears across a 1 Meg volume control and is fed back to the pentode section which doubles as an AF amplifier (this is the classical "Reflex" amplifier). The AF output is developed across a universal output transformer whose primary is in series with the IF output transformer primary and whose secondary directly feeds a loudspeaker.

An interesting "minimalist" circuit and a good way to use up all those "pesky" 6U8s! This one's definitely going into the winter project queue. My only concern is that there could be significant L0 radiation if an external antenna is connected to the input. I'll send out photocopies of the article to anyone who sends a SASE - 32 cents should do it - non-USA requesters don't need to worry about the stamp.

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/-----\
| Michael A. Burke          THIS SPACE |
| Synetics Consultants      FOR RENT   |
| PO Box 439, 11 Scenic Dr   REAL CHEAP! |
| Westminster, MA 01473      |
| 508-874-0908              | /===\ |
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|-----oo00-( )-00oo-----|
|
| Do unto others as they would be done unto |
| and practice random acts of kindness.    |
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Date: Sat, 3 Aug 1996 21:42:26 -0500 (CDT)  
From: Chris Broadbent <cfb@bga.com>  
To: glowbugs@theporch.com  
Subject: What a great day...  
Message-ID: <199608040242.VAA06591@urchin.bga.com>

I must apologise for using the glowbugs distribution for this, but I can't help it. Today my wife and I went to the Austin Ham Meet at the Omni Hotel. We went just to look for surplus stuff and what-have-you. As some of you might know by now, I have been working on the design of a Tube based CW TX, at the same time as studying the code and theory necessary for at least a novice license. They held tests at the Meet today. I was aiming more at

the end of this month for my attempt. However, after determining that I had nothing to lose (other than \$6.05), I figured, "what the hey...".

To cut this already too long story short, I am now the owner of two certificates of successful completion - one for 5WPM and one for the Novice and Tech theory components. So when I get my license, I'll be a Tech+.

I'm quite a happy guy today. I hope you all grant me a little latitude for this misuse of glowbugs (I looked at lots of tube based boat anchors today, does that let me off the hook? :- ) ).

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Chris F. Broadbent

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Date: Sat, 3 Aug 1996 21:29:34 -0700 (PDT)  
From: herr@ridgecrest.ca.us (Michael Herr)  
To: glowbugs@theporch.com  
Subject: Re: What a great day...  
Message-ID: <v01530501ae2ac72597ca@[199.120.150.44]>

>To cut this already too long story short, I am now the owner of two  
>certificates of successful completion - one for 5WPM and one for the Novice  
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>  
>I'm quite a happy guy today. I hope you all grant me a little latitude for  
>this misuse of glowbugs (I looked at lots of tube based boat anchors today,  
>does that let me off the hook? :- ) ).  
>  
>--  
>  
>Chris F. Broadbent

Chris,

Congratulations! That is fantastic! Nothing is better than going in with expectations of knocking off one requirement and ending up with more than you expected. Now, put together a nice regen receiver, one tube transmitter on 40 and have a ball!

73

Mike WA6ARA

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Date: Sun, 4 Aug 1996 14:57:35 -0600 (MDT)

From: toyboat@freenet.edmonton.ab.ca

To: glowbugs@theporch.com

Subject: Ye Olde Valves - Electrical Equivalents?

Message-ID: <Pine.A32.3.91.960804133824.121810A-100000@fn2.freenet.edmonton.ab.ca>

Hello,

I've gotten interested lately, since getting my first AES catalog, with trying to closely approximate old 1930-ish self-excited oscillator and regen receivers.

Through some kind assistance from NA4G, R.D.Keys, I know how to substitute a 6SN7 octal for a type#45 4-pin, and a 6C5 or 6J5 octal for a UX201-A (01-A) 4-pin. With some component substitutions, these will work fine and are cheaper and easier to get. A 6J5 substitutes nicely for #30's (with more B+) in regens. (also 6F8G - a dual 6J5)

However, being the inquisitive anachronist that I am, I wondered if there weren't \*true\* electrical equivalents for the 201-A, 01-A and 45, that existed in the 1930's as 4-pin or 5-pin tubes. A #27 5-pin, for instance, is a low-mu triode like the UX201-A, 01-A, and seems to be used in similar ways (like regen detectors). It is also cheaper and more available. But, is it electrically (if not filamentally :-)) equivalent?

I have an RCA, circa 1963, receiving tube manual. These early tubes are usually only glossed over, however, and not described enough to allow discovering an electrical equivalent.

I would be very grateful if anyone out there can:

- 1) Suggest electrical equivalents for Types #45 (245) , #01-A (201-A,301-A), #27 (227,327), #10 (210).  
(could be 4-pin, 5-pin, or octal substitute)
- 2) Post or e-mail me technical characteristics of these tubes, so I can cross-reference with more modern tube characteristics.
- 3) Suggest available reference sources that give detailed technical characteristics and/or equivalents of these and other early tubes.

I surmise, that with the arrival of pentodes, and later, beam power pentodes, power triodes (#45, #10) sort of reached a technical extinction in development. However, the thirties may still have produced some more readily available tubes that carried their characteristics forward into the indirectly-heated cathode/5-pin/octal age. Similarly,

the characteristics of #01-A and #27 may have been carried forward.

Thanks again for any help.

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** Shane <toyboat@freenet.edmonton.ab.ca> **
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    ** Edmonton, Alberta, Canada **
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End of GLOWBUGS Digest 253  
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